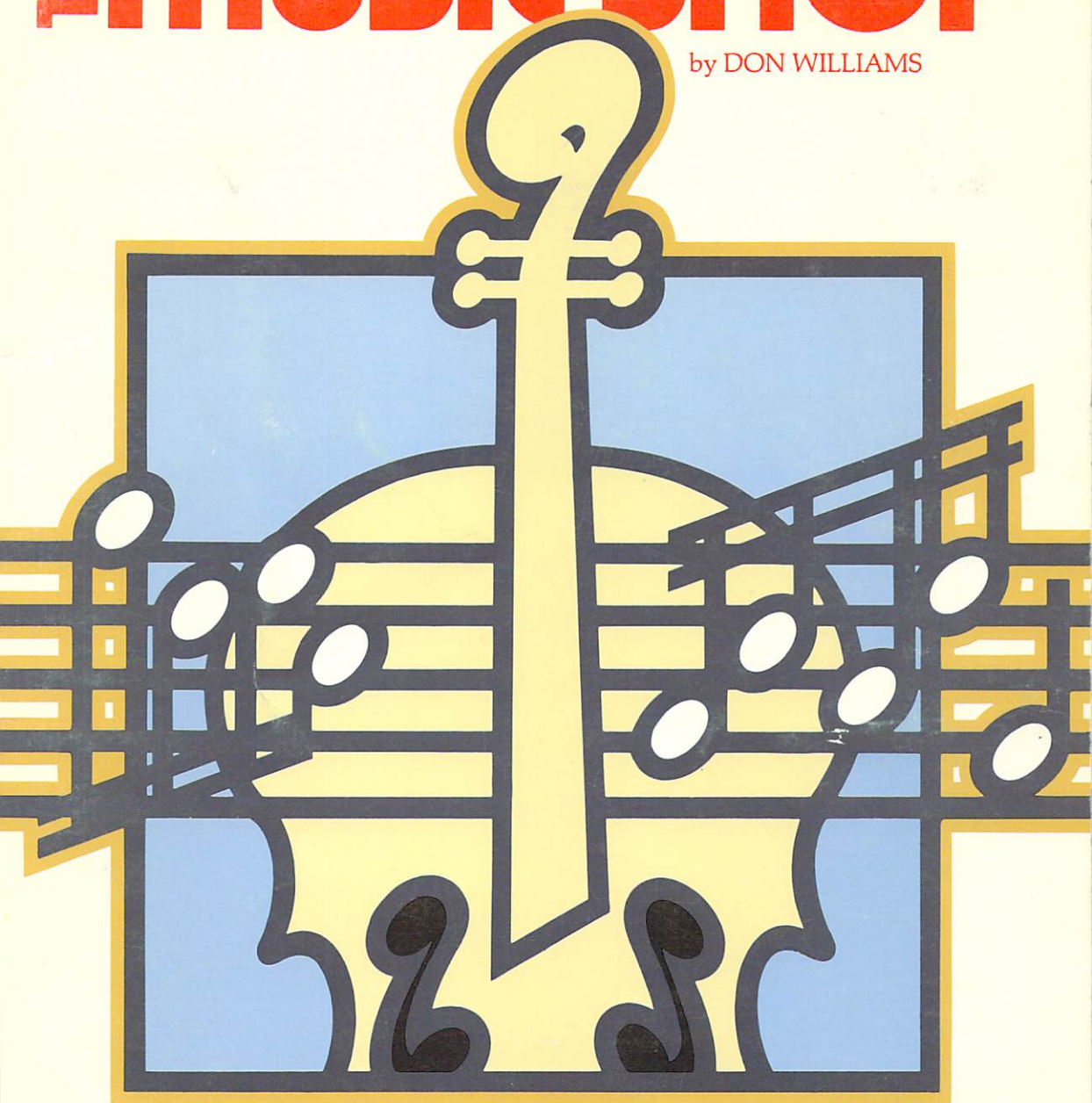


CREATIVE WORKSHOP SERIES™

#MUSIC SHOP™

by DON WILLIAMS



USER'S MANUAL

[BY DON WILLIAMS]

THE MUSIC SHOP



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With special thanks to

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TABLE OF CONTENTS

OPENING NIGHT: "FANTASY IN G"	1
THE ORCHESTRA TUNES UP: GETTING STARTED	2
Using this Manual	2
What You Will Need	2
Loading Instructions	2
INSTRUMENTS READY: HOW TO USE THE MUSIC SHOP	4
Composing Tools	4
Menus, Windows, and Dialog Boxes	5
Creating Your First Composition	7
Playing Music Shop Scores	10
THE PERFORMANCE BEGINS: THE MUSIC SHOP STEP BY STEP	11
The Music Box	11
The Tools Menu	12
Get Notes	
Setup Screen	
Adjust Sound	
Verify Timing	
The Title Menu	20
Load Score	
Save Score	
List Titles	
Enter Title	
Format Disk	
Print Page	
Print Score	
Clear Page	
Clear Score	
Quit	
The Edit Menu	24
Capture	
Cut	
Copy	
Clear	
Paste	
Undo	
The Page Box	29
PROGRAM NOTES: VARIATIONS ON THE MAIN THEME	30
Basics of Music Theory	30
Sound and the Commodore 64	38
Music Shop Titles	43
WARRANTY INFORMATION	44

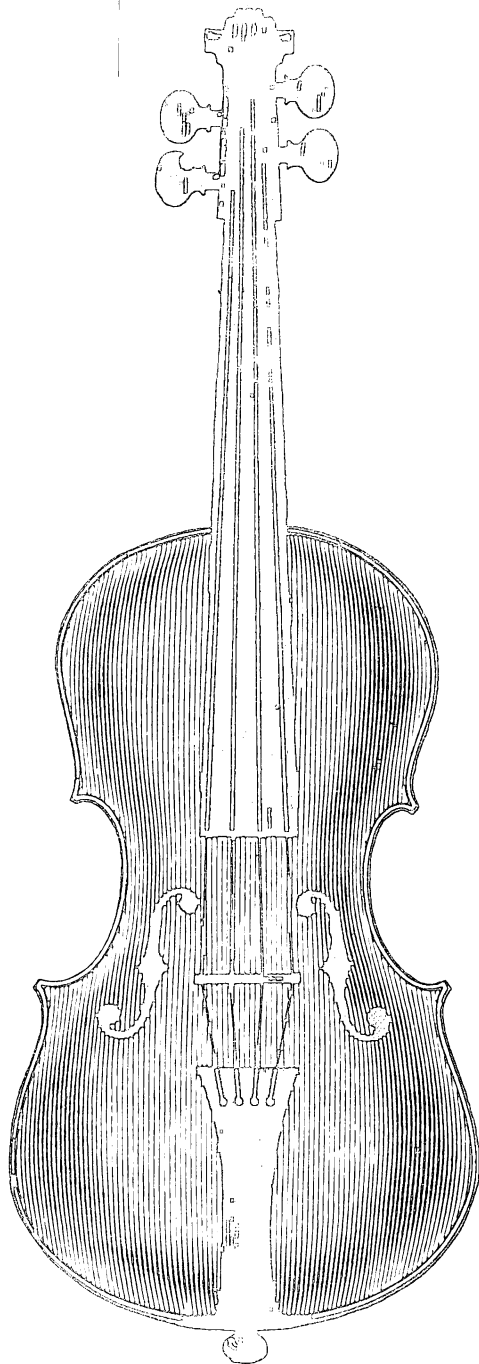
OPENING NIGHT

The time is 7:30 p.m., a half hour before a sold-out concert is scheduled to begin. The musicians have taken their places in the orchestra pit. The hall is quickly filling with people waiting to hear what reviewers are calling “among the greatest masterpieces in recent years.” Meanwhile, the unassuming and somewhat shy composer watches it all from a seat in the fifth row. “Is this really happening?” the composer wonders. “Did I really create a masterpiece?”

THE MUSIC SHOP may not turn you into a world-famous composer overnight, but it can certainly start you on your way. You can create original musical compositions easily and quickly by placing musical symbols onto the staff on your screen. THE MUSIC SHOP even lets you change tempo and sound, as well as key and time signatures, in the middle of your score. Use the editing features to refine your compositions, then save or print them out as professional-looking sheet music. THE MUSIC SHOP also lets you use your Commodore 64 as a powerful music synthesizer, controlling the sound quality, volume, and tempo. At any time you can listen to a few measures or the entire score. And with THE MUSIC SHOP's included music selections, you can fiddle to your heart's content with the compositions on your program disk or just relax and enjoy the concert.

With THE MUSIC SHOP, you don't have to know how to read music or play an instrument to create and play your own compositions. All that's required is a computer, monitor, disk drive, and your imagination.

Who knows? Your compositions might be performed to a standing-room-only audience before you know it.



THE ORCHESTRA TUNES UP

USING THIS MANUAL

THE MUSIC SHOP and this manual are designed for both experienced and beginning composers (and computer users).

If you have some music and computer experience and want to get started right away, you may prefer turning directly (after loading the program) to **Quick Start for Experienced Composers** on the separate **REFERENCE CARD**.

Those who prefer to proceed through the manual will find it organized in the following manner:

THE ORCHESTRA TUNES UP: GETTING STARTED tells you what you need to use THE MUSIC SHOP and how to load the program.

INSTRUMENTS READY: HOW TO USE THE MUSIC SHOP introduces you to your composing tools and to the overall structure of the program. **Creating Your First Composition** lets you learn the basics of using THE MUSIC SHOP while actually writing and playing music.

THE PERFORMANCE BEGINS: THE MUSIC SHOP STEP BY STEP explains how to use the program feature by feature. You'll find this section useful as either a tutorial or a quick reference.

PROGRAM NOTES: VARIATIONS ON THE MAIN THEME includes **Basics of Music Theory**, a section explaining musical symbols and terms used in THE MUSIC SHOP; **Sound and the Commodore 64**, which explains the details of the program's use of the Commodore's sound synthesizer, and **Music Shop Titles**, a list of the music on the program disk.

The separate **REFERENCE CARD** lists optional keyboard commands and shortcuts, and includes the **Quick Start for Experienced Composers**.

WHAT YOU WILL NEED

- *Commodore 64
- *disk drive
- *TV or monitor

Optional

- *joystick (NOTE: must be plugged into control port 2)
- *data disk (for saving scores)
- *Commodore VIC-1525 or MPS-801 graphics printer, or any printer/interface-device set-up that fully emulates the VIC-1525 printer (see label on back of box for specifics).

LOADING INSTRUCTIONS

1. First make sure your computer, TV set or monitor, disk drive, and optional printer (and interface device, if you have one) are connected properly and turned on in the required order.
2. Make sure the **SHIFT LOCK** is not on; otherwise the program won't work correctly.
3. Insert THE MUSIC SHOP disk — label side up — into the disk drive and close the drive door.
4. **IMPORTANT: LOADING INSTRUCTIONS DEPEND ON WHICH PRINTER SET-UP YOU HAVE.**

If you're using a Commodore VIC-1525 or MPS-801 graphics printer (or no printer): Type **LOAD "MS",8,1** and press **RETURN**.

If you're using other printers and interface devices listed on the back of THE MUSIC SHOP box: Type **LOAD "MSP",8,1** and press **RETURN**.

5. THE MUSIC SHOP will load in less than two minutes.

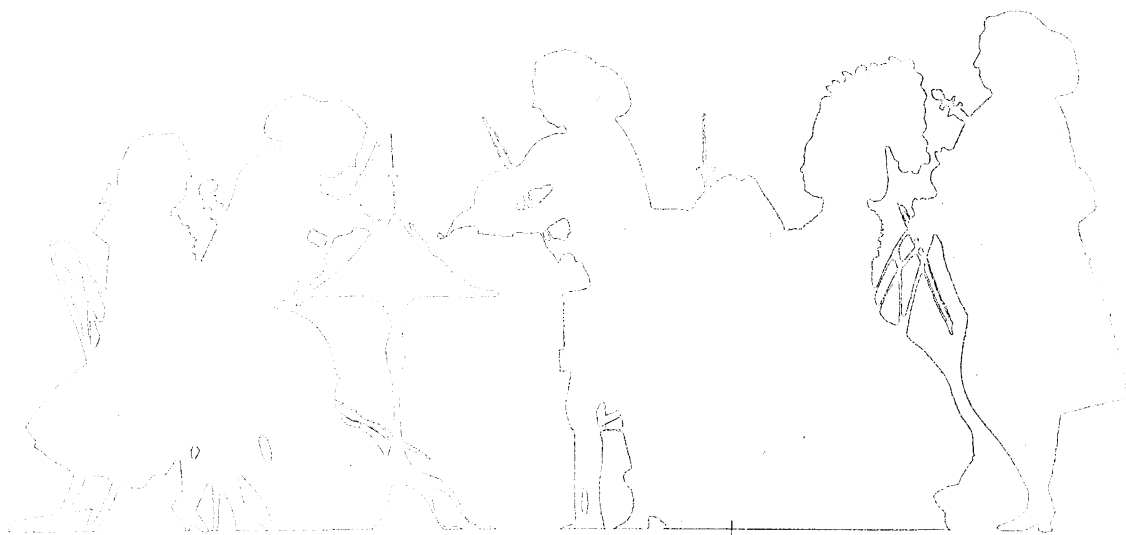
6. After loading is completed, the program will begin a demonstration mode, loading and playing the first 12 scores on the disk, and then starting over again. To advance to the next score in the demo, press the space bar.

7. To exit the demo mode and begin using the program, press the **RUN/STOP** key or joystick button. **NOTE:** The computer will not respond while the red disk drive light is on.

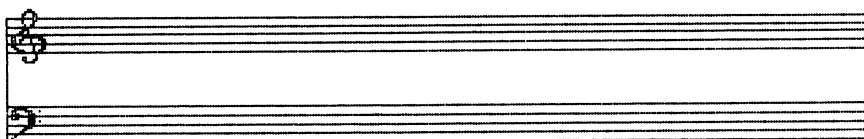
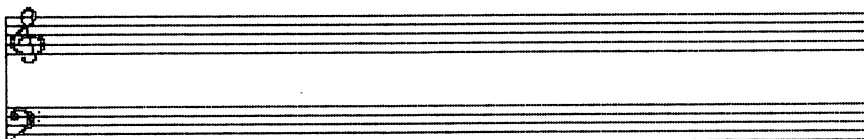
8. To restart the demo from the main com-

posing screen, make sure the program disk is in the disk drive, then press the **COMMODORE** and **D** keys at the same time.

9. **NOTE:** With **THE MUSIC SHOP**, you can create your own demo! Place your data disk in the disk drive and then press the **COMMODORE** and **D** keys at the same time. **THE MUSIC SHOP** will load and play in a continuous loop up to the first 12 scores saved on the data disk. Exit this demo the same way as you do the program demo, by pressing the **RUN/STOP** key or the joystick button.



INSTRUMENTS READY



Before you begin, look at the screen for a minute. Your music-writing screen, or “manuscript paper,” is in front of you, clean and ready for notes. At the top of the screen is a menu row, which has three menu boxes — the ones labeled **Tools**, **The Music Shop**, and **Edit** — and two status boxes — the little ones at the left and right sides. You move the arrow on the screen to select features in the program or to place notes and musical symbols where you want them.

COMPOSING TOOLS

THE MUSIC SHOP may be used with a joystick, the computer keyboard, or a combination of both. Using these tools, you move the arrow on the main composing screen to select features and to create your music.

NOTE: This manual assumes you'll be using a joystick. If you prefer to use the keyboard, keep in mind the keyboard instructions below when reading about how to perform specific tasks.

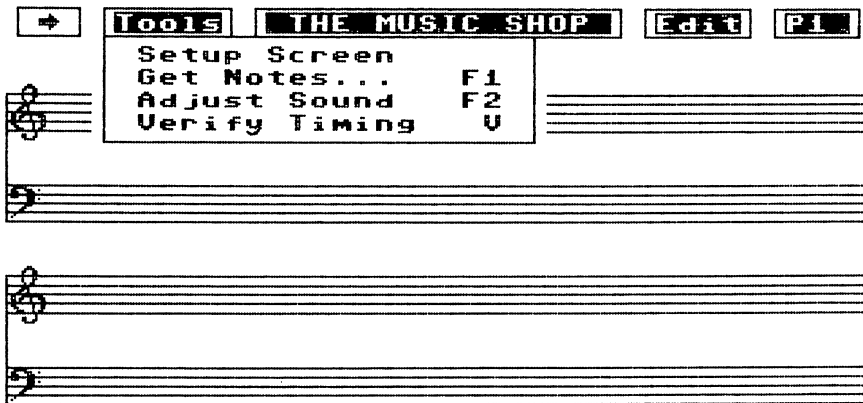
1. **Joystick:** The joystick controls the arrow's position on the screen.

NOTE: Make sure the joystick is plugged into control port 2. If it isn't, the program won't work correctly. Move the joystick up, down, right, and left and watch the arrow move the same way. Once you've positioned the arrow where you want it, just press the joystick button to make a selection. Be sure to let THE MUSIC SHOP do the work for you: Once you get a feel for how the joystick moves the arrow, you'll find that THE MUSIC SHOP helps you place your notes by “skipping” forward to the next space. Practice tapping the joystick, so the arrow moves just one space each time. If you use your fingers, rather than your whole hand, it'll be easier.

2. **Computer Keyboard:** If you prefer, you can use the computer keyboard to do everything in THE MUSIC SHOP. To control the arrow's position on the screen, use the cursor keys: \uparrow CRSR \downarrow and SHIFT \uparrow CRSR \downarrow move the arrow up or down and CRSR and SHIFT CRSR move it left and right. To make a selection just press RETURN. (There are just two places where you can't use RETURN: 1) In the **Adjust Sound** window, you press the F3 key to move the sound control slides up, and the F5 key to move them down; 2) To turn pages, you point the arrow at the **Page Box** and then press the F5 key to go to the next page, or F3 key to go to the previous page.)

3. **Combination Keyboard and Joystick:** In THE MUSIC SHOP, there is usually more than one way to do something, thanks to the many built-in shortcut commands. A full list of keyboard shortcuts is included on the **REFERENCE CARD** and at the back of this manual. Just remember: There's no "right" or "wrong" way — do what comes easiest. You may end up using only the joystick, only the keyboard, or a combination unique to you.

MENUS, WINDOWS, AND DIALOG BOXES



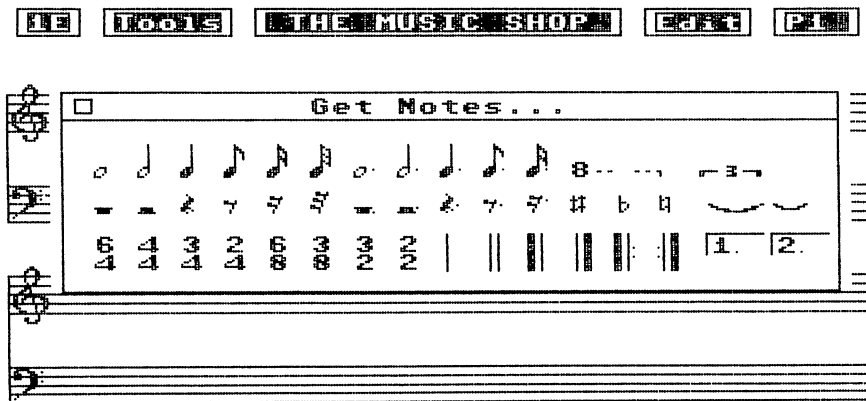
In THE MUSIC SHOP, features are listed in "pull-down menus." This means you "pull down" each menu before selecting a feature in the program.

To see the available features, point the arrow up at a menu box. Then press the joystick button. Like magic, a list of features appears beneath the menu box.

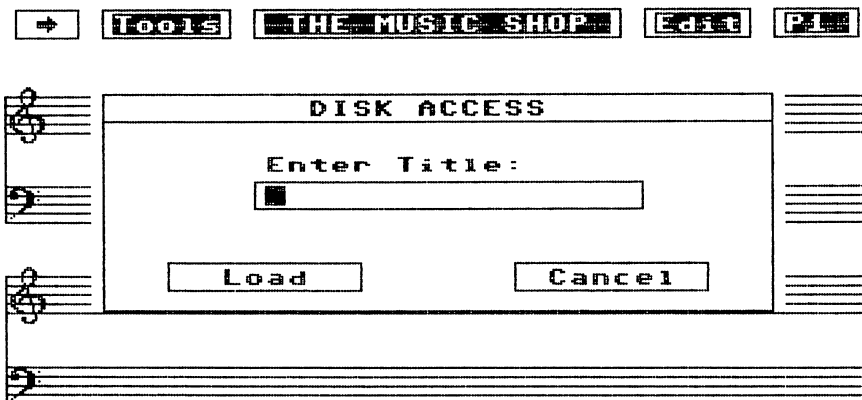
To select a feature from the menu, move the arrow to the feature you want and press the joystick button. As you point to each feature, it will be highlighted to let you know it can be selected at that time.

When you have a menu pulled down, you can move to another menu by pointing at that menu box and pressing the joystick button. You can "put

away" a menu by moving the arrow outside the pulled-down menu and pressing the joystick button.



Windows and Dialog Boxes appear in the middle of the screen when you select specific features. Windows contain tools for using the program. For example, the Get Notes window shown here includes the tools you'll need for writing music. In a window, you make selections by pointing the arrow at what you want and pressing the joystick button. To exit a window and return to the main screen, either point the arrow at the small "exit box" in the upper-left corner of the window or press the RUN/STOP key.





Dialog boxes ask for or provide information needed to use the program, like the example shown here, which appears on your screen when you select Load Score. Other dialog boxes may tell you that you have a problem (for example, "Printer is not ready") or warn you before you take an action (for example, "If you 'clear' you will lose your current score!") To exit a dialog box, either choose a given option (such as LOAD or CANCEL), or press the RUN/STOP key.

9. Play **TEAPOT** again, and listen to the three-part harmony that you've created.

10. If you want to take a shortcut, you can hear **TEAPOT** in three-part harmony the easy way: Just load **TEAPOT3** on the screen and play this ready-made version.

ADJUSTING THE SOUND

1. Now you're ready to use **THE MUSIC SHOP**'s sound synthesizer. Select **Adjust Sound** from the **Tools** menu.

2. You'll notice that once the **Adjust Sound** window is on the screen, the  appears in the **Music Box**. This means you can listen to your score as you adjust the sound. Just point the arrow at the  and press the joystick button (or press the F7 key). **TEAPOT** will continue to play over and over as you change the sound.

3. Move the arrow to the box labeled "Load an Instrument." Point to the hollow arrow at the right of "V1." This stands for Voice One of **THE MUSIC SHOP**'s three-voice music synthesizer.


4. Press the joystick button to cycle through the 16 different instruments or sounds included in **THE MUSIC SHOP**. You can watch the slides and switches in the other section of the **Adjust Sound** window alter as you change instruments, and listen to the accompanying changes in sound.

5. Stop at the instrument or sound you want. Then repeat the process for Voices Two and Three ("V2" and "V3").

6. You can also change the sound by pointing the arrow at the boxes under the words "Presets" and pressing the joystick button to change from one box (and preset sound) to another.

7. If you feel adventurous, experiment with the other features you see in the **Adjust Sound** window. To make the slides go up and down, just point at the black slide, and push the joystick up or down while holding down the joystick button. HINT: Try the tempo ("Tp") and volume ("Vo") controls first; they're the easiest to understand.

8. If you get lost, or just want to get back to where you started, type **R** to restore the original **MUSIC SHOP** sound presets.

9. To stop **TEAPOT** playing, point at the  and press the joystick button (or press the F7 key). To get out of the **Adjust Sound** window and back to the main screen, point at the small exit box and press the joystick button, or press **RUN/STOP**.

SAVING AND PRINTING

1. Save your score on a data disk first. **IMPORTANT! At this point you need to remove the program disk and insert the data disk on which you want to save your compositions.** If you don't already have a formatted disk, first select the **Format Disk** option from the **Title** menu and follow the instructions to format your data disk.

2. Select **Save Score** from the **Title** menu.

3. If you want to save this score under a different name, simply erase **TEAPOT** by using the **DEL** key and type in the new name.

4. Now select **SAVE** and **THE MUSIC SHOP** will save your song for you on your data disk.

5. To see a list of titles of music on the disk currently in the disk drive, select **List Titles** in the **Title** menu. You can do this now, and you'll see the title of the song you just saved.

6. Now (if you have one of the printer set-ups suggested for use with **THE MUSIC SHOP**), print the score for **TEAPOT**. Go to the **Title** menu and select **Print Score**.

Congratulations!! You've just mastered the basics of THE MUSIC SHOP and started on your new musical adventure.

PLAYING MUSIC SHOP SCORES

THE MUSIC SHOP includes a collection of musical scores ready to load on the screen, play, and enjoy. To play them, follow these steps:

1. Select **List Titles** from the **Title** menu to see a list of titles of music on the disk currently in the disk drive. To cycle through all the titles, point at the hollow arrow in the upper-right corner.

2. Point at the name of the score you want to play (you'll see the title highlighted when you point at it).

3. Then press the joystick button, and the score will be loaded into your computer's memory, with the first page appearing on the screen.

4. To play the score, point at the **Music Box** in the upper-left corner and press the joystick button.

5. You can change the sound the same way you did on **TEAPOT** by using the **Adjust Sound** window.

6. **HOW TO DO YOUR OWN DEMO:** **THE MUSIC SHOP** also lets you create a continuous demo using your own data disk. Place your data disk in the disk drive, then press the **COMMODORE** and **D** keys at the same time. Up to the first 12 scores on the data disk will be loaded and played in a loop. Advance to the next score by pressing the space bar; exit by pressing the **RUN/STOP** key or joystick button.

THE PERFORMANCE BEGINS



This section “walks you through” the menus, status boxes, and features of THE MUSIC SHOP. You can read straight through, if you want, or you can use it as a tutorial to explore each new area of the program, or as a quick reference guide.

MUSIC BOX



The box at the upper-left corner of the screen is the **Music Box**. This “status” box has three purposes:

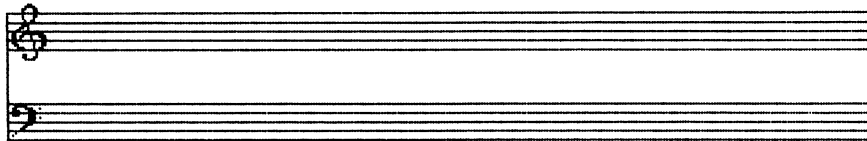
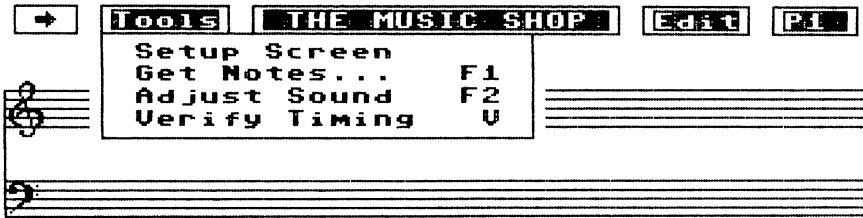
1. It tells you where the arrow is pointing, by staff number and note. For example, 1A means the arrow is on the top staff on the page, pointing up at an A (The **Music Box** identifies the line or space **just above** the tip of the arrow). On a treble staff (in double-staff mode), THE MUSIC SHOP lets you place notes from the F below the bottom line to the D above the top line. On a bass staff (double-staff mode), you can place notes from the A below the bottom line to the F above the top line. (The range is larger in single-staff mode.) Between staves, the **Music Box** lets you know when you shift from one staff to another. When you’re positioning your notes, you may want to use the **Music Box** to help you find the right location.

2. It lets you play a song from beginning to end. To play your song, point the arrow at the **Music Box** to make the  appear, then push the joystick button. The  also appears when you use the **Adjust Sound** window so you can listen to the current page of music continuously while fine-tuning the sound. Play the music the same way as above.

3. It points in the direction of the menus you can use when the arrow is at the top of the screen.

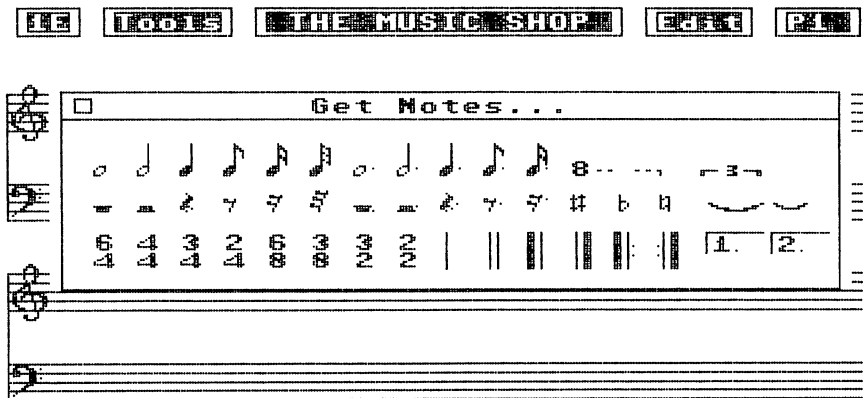


TOOLS



The next box to the right is the **Tools** menu. This menu contains features for creating or reworking compositions, changing the screen, adjusting the sound using THE MUSIC SHOP's synthesizer, and checking the timing for each measure of your piece.

GET NOTES



What It Does:

In the Get Notes window, you'll find the notes and other musical symbols you'll need to compose your original scores. (If you don't recognize some — or *any* — of these symbols, no matter. The **Basics of Music Theory** section under **PROGRAM NOTES** is both a quick refresher for rusty veterans and an understandable introduction for novices.) You can open the Get Notes window either by pulling down the **Tools** menu and selecting **Get Notes**, or simply by pressing the F1 key for quick access directly from the main screen.

THE MUSIC SHOP plays up to three notes at a time, so you can place up to three notes or rests in the same vertical column; if you try to place a fourth note or rest, THE MUSIC SHOP will automatically move the arrow to the next space where you can place a note.

NOTE: If you want two or three notes (or rests) to be played at the same time, be sure they line up vertically. Otherwise, THE MUSIC SHOP may not play your composition the way you intended it to be played.

2D **Tools** **BROTHER JACK** **Edit** **P1**





How To Do It:

To place notes or symbols on the screen, just follow these steps.

1. Select a note or symbol by pointing the arrow at the one you want and pressing the joystick button. Once you've made your selection, the window vanishes, uncovering the main composing screen with the arrow holding a "shadow" version of the note or symbol that you selected.
2. Position your note or symbol by moving the shadow version to where you want it on the screen, and then press the joystick button to set it down. **Surprise!** What you see is what you hear: THE MUSIC SHOP plays each note as you "drop" it onto the staff.
3. To **repeat the same note or symbol** (again, and again, and again ...), just move the shadow symbol to the next location you want and set it down once more.
4. If you want a **different note or symbol**, just return to the Get Notes window and make your new selection.
5. To pick up a **note already on the screen**, move the arrow until it's pointing at the note you want and press the joystick button. When you move the arrow again, you'll see that it's carrying a shadow version of the new note. This will work whether or not you're carrying another note on your arrow; just make sure that you place the shadow note directly on top of the new note you want to pick up before pressing the joystick button (the shadow note will seem to disappear when it's right on top of another note).
6. To **erase** a note or symbol, simply move the arrow so that it's pointing at what you want to erase, then press the joystick button twice. You can

also erase a note or symbol by pointing at it and typing E. And you can erase a note or symbol even when you're carrying a shadow note: Just place the shadow note on top of the note you want to erase — the shadow note should seem to disappear — then press the joystick button twice or type E. (You must type E to erase a bar line.)

7. To place triplets on the screen, first pick up the type of note or rest you want to use, then type T to signal the computer that you want to write triplets. A shadow "t" will appear next to the note you're carrying to let you know you're in triplet mode. When you've finished writing triplets, type T again to exit triplet mode (the shadow "t" will disappear). To indicate on the screen where you've written triplets, select the  from the Get Notes window and place it over the top of each set of triplets. **NOTE:** This  is only a visual reminder. To make sure that THE MUSIC SHOP plays triplets, you must be in triplet mode when you place the notes on the screen. If you pick up a note or rest that is a triplet, the "t" will appear with the note, and you will be in triplet mode until you type T again.

8. You can also use **keyboard shortcuts** to place some notes and symbols, by first positioning the arrow where you want the note or symbol to be and then using the shortcut. These keyboard shortcuts will work whether or not the arrow is carrying a shadow note or symbol.

a) To place whole notes down to thirty-second notes on the screen, type 1 to 6 (1 for a whole note, 2 for a half note, and so on).

b) To place whole rests down to thirty-second rests on the screen, type **SHIFT 1** to 6.

c) To place a single bar line on the screen, type **B**.

d) To place sharp, flat, or natural symbols on the screen, type **S** for sharp, **F** for flat, and **N** for natural.

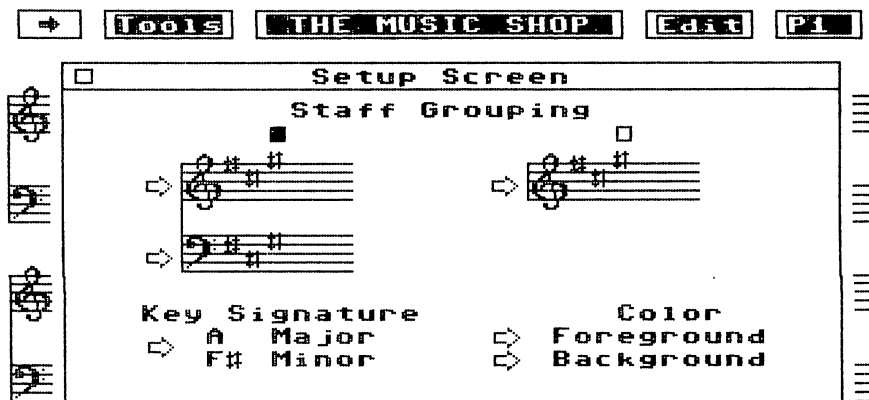
e) To change the stem direction of the note you're carrying, type **U**. When you enter notes directly from the keyboard, their stem direction will be the same as the note you're carrying on the arrow. As long as you're carrying a stem-down note, any notes you input from the keyboard will also have their stems down.

f) To change the direction of ties  and the triplet symbol , first select these symbols from the Get Notes window, then type **U**.

g) To insert a space one note wide, press the **INST (SHIFT DEL)** key.

h) To delete a space one note wide, press the **DEL** key.

SETUP SCREEN

**What It Does:**

The **Setup Screen** features let you change the way the main screen looks by choosing the staff grouping, and the color you want for both the background and foreground. If you save your composition later, the selections you make in the **Setup Screen** window will be saved along with the music. (Just imagine "Greensleeves" in green, or "The Yellow Rose of Texas" in yellow ...) In this window, you can also pick a key signature to use as you're writing your composition, so you can avoid the time and effort involved in placing each sharp or flat individually.

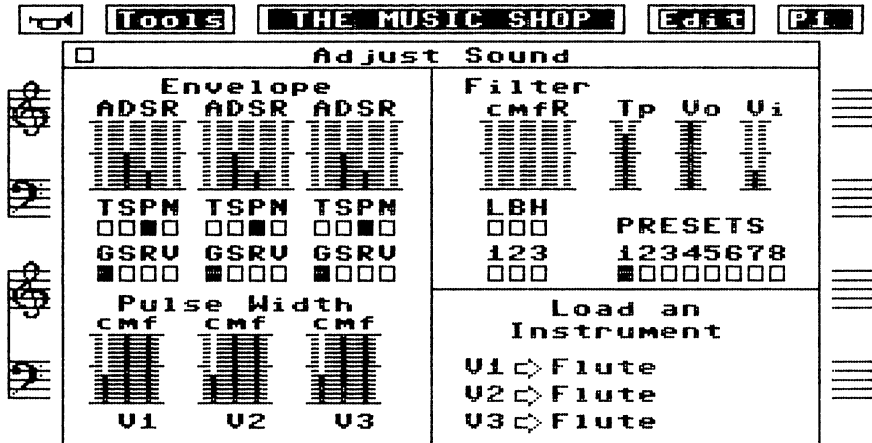
How To Do It:

1. To **change the staff groupings** on the screen, point the arrow at the box above the grouping you want and press the joystick button. You can use either the single-staff mode or double-staff mode depending on the type of music you want to write. THE MUSIC SHOP will always start with two double staves (that's the plural of staves!) when it loads.
2. To **change the clef type**, point at the hollow arrow to the left of the staff whose clef you want to change and press the joystick button.
3. To **change the background or foreground screen color**, point to the arrow to the left of "Foreground" or "Background" and cycle through the colors until you find the ones you want.
4. To select a **key signature** when you're starting a new composition, point to the hollow arrow below the words "Key Signature." Press the joystick button to cycle through all the key signatures until you find the one you want. The different key signatures will be displayed on the staves in the window as you cycle through them. Once you exit the **Setup Screen** window, you can **place the key signature** on the screen by typing K. The selected key signature will be placed at the beginning of each staff (it will erase any notes or symbols already entered in that position).


NOTE: Make sure you leave one space between the last flat or sharp symbol in the key signature and the first note following it. That will ensure that THE MUSIC SHOP reads the key signature correctly.

5. To put your changes into effect, exit the Setup Screen window.
- IMPORTANT:** Changing the staff grouping will change your main composing screen: If you already have music written on the screen, you'll lose it when you exit the Setup Screen window.
6. To change key signatures in mid-composition, place a double-bar symbol, then enter the new key signature manually by placing the sharp or flat symbols in the correct positions on the staff.

ADJUST SOUND



What It Does:

THE MUSIC SHOP's **Adjust Sound** feature lets you turn your computer into a sound synthesizer by giving you control of the Commodore 64's sound chip. To listen to the score while you work, just select **Adjust Sound**, and when this window is on the screen, point at the  and press the joystick button (or press the F7 key). You can stop the music in the same way.

The Commodore 64's sound chip lets you work with three independent "voices," labeled V1, V2, and V3 on this screen. With these three voices, you can play up to three notes at any one time (voice one plays the first or top note on the staff; voice two the second or middle note; voice three the bottom or third note). This gives you the option of adjusting each voice separately, producing an amazing number of sound variations.


You can open the **Adjust Sound** window either by pulling down the **Tools** menu, or simply by pressing the F2 (SHIFT F1) key for quick access directly from the main screen.

How To Do It:

You can use the **Adjust Sound** window in two ways: You can use it to select the wide variety of preset or instrument sounds included in THE MUSIC SHOP or you can create your own, unique, customized effects by directly setting the sound controls. If this window looks a little complex,

you might want to start by using the program's "Load An Instrument" or "Presets" features, explained below.

Slides and Switches: You're in Control

You can select the sound for each of the three voices by using the controls in the **Adjust Sound** window. You control these sound functions with either a slide  or a switch. ■ □ □ □

A slide works just like a slide control on a stereo set, and has a range of 0 to 15. To change a slide, point to it, and, while holding down the joystick button, move the joystick in the direction you want the slide to move. (Remember that if you're using keyboard controls, you point the arrow at the slide, then use F3 and F5 keys to move the slide.)

A switch is like a light switch, and can be either on or off. A switch is on if it's a solid, dark color. To turn a switch off or on, point to it and press the joystick button.

Load An Instrument: Create Your Own Orchestra

THE MUSIC SHOP gives you a selection of 16 different instrument and other sounds that you can load into the music synthesizer. Just point at the hollow arrow next to the voice you want to change and press the joystick button to cycle through your choices. You'll see the synthesizer slides and switches change as you move from instrument to instrument. **NOTE: This feature simply lets you LOAD an instrument sound into the synthesizer. If you alter the synthesizer settings on your own after you load the instrument, the instrument name will not change, although you may have changed the sound dramatically.**

Presets: What an Earful!

You can also pick a complete "sound" for all three voices, if you wish, by using the Preset selection switch boxes above the "Load An Instrument" section. THE MUSIC SHOP includes eight program presets: Each time you start to write a new piece, these are the preset sounds you'll find in the **Adjust Sound** window. You can alter the sound in any or all of these presets by first selecting that preset, then loading instruments or changing the synthesizer controls yourself. When you save your score, your customized presets will be saved along with the score.

If you get lost or don't like the sounds you've created, you can always restore the original program presets by typing R when you're in the **Adjust Sound** window.

Changing Sounds Midway: Slow, Fast, Slow

THE MUSIC SHOP gives you the flexibility of using the presets to switch sound, tempo, and volume once or many times in a composition. You can play one section slowly and softly; the next can be loud and boisterous, the next back to slow and soft, and so on.

First adjust the sound the way you want in each preset. Then point the arrow at the beginning of the measure (either right above or right below

the staff) where you want a specific preset sound to begin and press the **COMMODORE** key plus the number of the preset you want to use (for example, **COMMODORE 2**). That preset number will appear inside a small box on the screen. When you want to change the sound, repeat the process, typing in a new preset number. **NOTE:** Make sure you are pointing at the staff you want before typing in the preset: Check the **Music Box** to make sure it's indicating the right staff number. If you need to change the position of the sound preset number, you can erase the preset numbers in the same manner as you do notes and symbols.

NOTE: For a detailed description of how the sound synthesizer works and further explanation of the terms below, turn to **SOUND AND THE COMMODORE 64**.

Envelope: Not The Mailing Kind

Each sound has a specific shape, or "envelope," that determines the way the sound begins and ends. To control the way a sound builds up, holds on, and dies away, adjust the **ADSR** slides for the voice you want to change.

- | | |
|--------------------|---|
| A - Attack | - Time it takes for a note to reach its peak |
| D - Decay | - Time it takes for note to fall from peak to sustain level |
| S - Sustain | - Volume level at which a note will remain after the decay |
| R - Release | - Time it takes for a note to fall to zero volume |

Waveform: The Listening Kind

Different soundwaves have different waveforms; these waveforms have distinct shapes and determine the quality of the sound you hear. To control the type of sound for each voice, turn the **TSPN** switches on or off.

- | | |
|---------------------|--|
| T - Triangle | - Pleasant mellow sound, like a flute |
| S - Sawtooth | - Brassy sound, like a trumpet or saxophone |
| P - Pulse | - Reedy nasal sound, like an oboe: Varied by adjusting pulse width (see below) |
| N - Noise | - White noise, or percussion-like sound |

Control Register: Now for the Real Fun

These controls let you turn any voice off or on, or change the tone quality of a sound by combining two waveforms.

- | | |
|----------------------------|---|
| G - Gate | - Turns any voice on or off |
| S - Sync | - Synchronizes the pitch of two voices |
| R - Ring Modulation | - Produces metallic or bell-like tones |
| V - Vibrato | - Produces a waving effect for any selected voice |

NOTE ON SYNC AND RING: The voices are combined in the following manner:

Voice 1	with	Voice 3
Voice 2	with	Voice 1
Voice 3	with	Voice 2

For Ring, the voice in the first column must be a Triangle waveform.

NOTE ON VIBRATO: To use vibrato, turn on switch for each voice you wish to have vibrato and set the intensity using the Vi slide.

Pulse Width: Narrow to Wide

These controls are used to adjust the width of the pulse, when the P — pulse — waveform is chosen (see Waveform section above). Pulse width is set using the CMS slides. (If you don't set a pulse width, you won't hear any sound.)

- | | | |
|---|----------|--------------------------------------|
| c | - Coarse | - Allows for large-scale adjustments |
| m | - Medium | - Allows for moderate adjustments |
| f | - Fine | - Allows for small-scale adjustments |

Filter: Coarse to Fine

Filters are used to determine the overall tone quality of a sound. Whenever you switch on the filter switch, you must also adjust the filter. Filtering the sound lets you adjust the timbre or tone coloration for each voice by cutting out specific frequencies using either a low-pass, band-pass or high-pass filter.

- | | | |
|---|--------------------|---|
| F | - Filter | - Turns on filter |
| c | - Coarse | - Allows for large-scale adjustments |
| m | - Medium | - Allows for moderate adjustments |
| f | - Fine | - Allows for small-scale adjustments |
| R | - Resonance | - Emphasizes the strength of the filter |
| L | - Low-Pass filter | - Allows low frequencies to pass through filter; medium and high frequencies are filtered out |
| B | - Band-Pass filter | - Allows medium frequencies to pass through filter; low and high frequencies are filtered out |
| H | - High-Pass filter | - Allows high frequencies to pass through filter; low and medium frequencies are filtered out |

Tempo, Volume and Vibrato: To Fit The Mood

These controls are the simplest to understand: They control the tempo of the notes, the volume at which the music is played, and the intensity of the vibrato.

- | | | |
|----|-----------|--|
| Tp | - Tempo | - Controls the tempo |
| Vo | - Volume | - Controls the volume |
| Vi | - Vibrato | - Controls the intensity (speed) of the vibrato. (Vibrato is turned on by selecting the V switch in the GSRV control register, explained above.) |

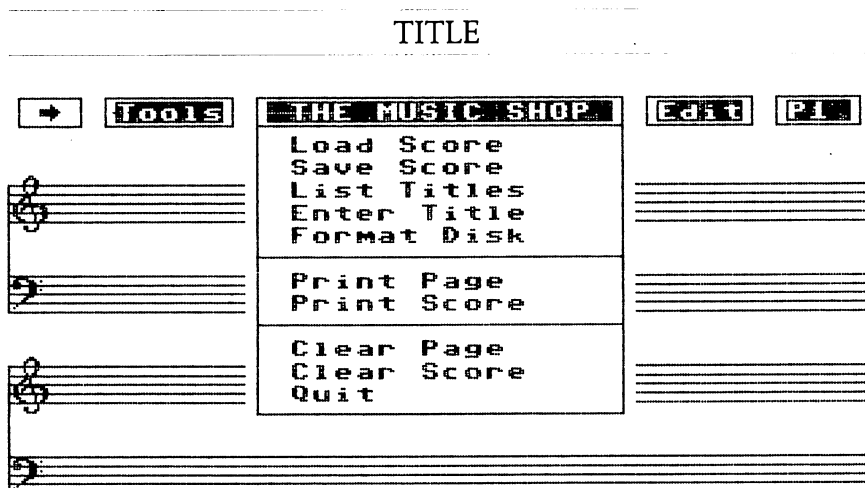
VERIFY TIMING

What It Does:

The **Verify Timing** feature lets you check to see if you have the correct number of beats in each measure for the time signature you are using. You can begin checking at the beginning of the piece or anywhere in the middle. (If you haven't placed a time signature on the screen, THE MUSIC SHOP assumes you are using $\frac{4}{4}$ time.)

How To Do It:

1. Once you select **Verify Timing**, a ✓ appears at the arrow. You can also select the **Verify Timing** mode by typing V. Move the arrow to the position where you want to begin checking your timing.
2. Press the joystick button. If THE MUSIC SHOP finds too many or too few beats in a measure, it will stop at that measure.
3. To continue to verify, move the arrow to the next measure and type V to enter the **Verify Timing** mode again.
4. The **Verify Timing** feature is intended to help you write music with the right number of beats per measure. However, THE MUSIC SHOP will still play your music even if you don't have the timing just right.



The **Title** menu lets you create titles for your musical scores, save them to and retrieve them from a formatted data disk, look at a directory, or list, of titles on either the program disk or your data disk, and format a data disk. From this menu, you can also print your entire score or just the current page, erase your score (or the current page), and exit from the program. (To delete a score from your data disk, refer to your disk drive manual for instructions.)

We call this menu the **Title** menu because this is where you'll see the titles of your scores. You won't ever see the word "Title" in this menu box, however. When the program first loads, you'll see the words **The Music Shop**. This will change as soon as you enter the title for the composition you're starting to work on, or load an already written score onto the screen.

LOAD SCORE**What It Does:**

This menu item lets you load a score onto the screen from either your data disk or from THE MUSIC SHOP's program disk. You can also load a

score directly from the **List Titles** feature, which is handy when you want to see the list of titles on your disk before loading one. (See instructions for using that feature below under **List Titles**.)

How To Do It:

1. Select **Load Score** from the menu and a box will appear on the screen.
2. Type in the name of the score you want to load. You'll see the score name appear in the box underneath the words "Enter Title." If there's already a score name written in, you can erase it, if necessary, by using the **DEL** key. Then type in the new title.
3. Point the arrow at **Load** and then press the joystick button. If you change your mind, activate **Cancel**.

SAVE SCORE

What It Does:

This feature lets you save your scores to a formatted data disk. You can also save scores that you load from the program disk onto your data disk. (To safeguard the program disk, you can't save scores to THE MUSIC SHOP's program disk).

IMPORTANT: To save your score, you need a separate formatted disk. If you haven't already formatted a disk, you need to select the **Format Disk** option in the **Title** menu first, and follow the instructions for formatting your disk. Then you can come back and select the **Save Score** feature and save your score. (To delete a score from your data disk, refer to your disk drive manual for instructions.)

How To Do It:

1. Place your formatted data disk into the disk drive, if you haven't already done so. (It's generally a good idea to remove your program disk as soon as the program is loaded, unless you want to hear the demo, or load a score or scores from the program disk.)
2. Erase the old file name, if necessary, and type in the name of the file you want to save.
3. Point to **Save** and press the joystick button.
4. If you already have a score with that name on your data disk, THE MUSIC SHOP will ask you if you want to replace your old score with the current one. If you do, just point to **OK** and press the joystick button. If you want to change the score name so you can keep both scores, activate **No**. You then have to select the **Save Score** option again, and type in the new name you want to use for your score.

LIST TITLES

What It Does:

This feature lets you see all the titles of the scores on your current disk — either your data disk or the program disk. It also lets you load a score directly without going to the **Load Score** feature. Since you must type in the exact spelling of score names whenever you load or save scores, this feature is useful for reference and quick access to scores.

How To Do It:

1. To see the list of titles on the current disk, select this feature from the **Title** menu. You can scroll through all the titles on the disk by pointing at the hollow arrow in the upper-right corner of the window. After the last title, you'll start at the beginning of the list again.
2. To load a score directly from this window, highlight the title you want by pointing the arrow at it. Then press the joystick button, and the score will be loaded onto the screen.

ENTER TITLE

What It Does:

This feature lets you create a title for a new score or change the title of a score already on the screen. Whenever you create a new title, this title replaces the one currently listed in the **Title** box.

If you want to write and save more than one version of your score, just give each version a different title (for example, "My Song 1", "My Song 2", or "My Song A", "My Song B"). You can then save each version, title by title.

How To Do It:

1. Type in the title you want.
2. Select OK and press the joystick button to confirm your choice or Cancel if you change your mind.

FORMAT DISK

What It Does:

This feature lets you prepare a data disk to use for saving the scores you write or rewrite in THE MUSIC SHOP.

How To Do It:

1. Select the **Format Disk** option from the **Title** menu. Insert the disk you want to format in your disk drive. (If you've used the disk before, remember that when you format it, you'll lose any information that had been stored on it. If you want to cancel the whole process at this point, point at Cancel and press the joystick button.)
2. If you want to go ahead and format your disk, point the arrow at Format and press the joystick button. THE MUSIC SHOP will format your data disk for you.

PRINT PAGE

What It Does:

THE MUSIC SHOP gives you the option of printing either a page at a time or an entire score. The **Print Page** feature prints the single page of music that is on your screen.

NOTE: You must have one of the printers or printer/interface device combinations listed on THE MUSIC SHOP box in order for this function to work.

How To Do It:

1. **IMPORTANT!** Before printing, always save your score first so that you won't lose it if any problems occur.
2. Select **Print Page** and then press the joystick button to start printing.
3. Press the **RUN/STOP** key at any time to stop printing.
4. If you see the message "Printer is not ready" or if nothing seems to be happening, then your printer may not be connected properly or on-line. Follow the instructions that come with your printer (and interface device, if you have one) to make sure you are connecting your system correctly and are turning on the disk drive, computer, and printer in the correct order. This can make the difference between printing and not printing!
5. If you get stuck, reload the program.

PRINT SCORE

What It Does:

This feature prints your score from the current page to the last page where it finds any notes, producing three screens per printed page. In the double-staff mode, this means you'll have six double staves per printed page; in the single-staff mode, you'll have nine single staves per page. If you want the entire score to be printed, be sure you're on page 1 before selecting **Print Score**.

How To Do It:

1. **IMPORTANT!** Before printing, always save your score first so that you won't lose it if any problems occur.
2. Select **Print Score** and press the button.
3. Press the **RUN/STOP** key at any time to stop printing.
4. If you see the message "Printer is not ready" or if nothing seems to be happening, then your printer may not be connected properly or on-line. Follow the instructions that come with your printer (and interface device, if you have one) to make sure you are connecting your system correctly and are turning on the disk drive, computer and printer in the correct order.
5. If you get stuck, reload the program.

CLEAR PAGE

What It Does:

The **Clear Page** feature lets you erase the single page of music that's on your screen.

How To Do It:

1. To clear a page, just select **Clear Page** and press the button.
2. **IMPORTANT:** If you clear the page and realize immediately that you've made a terrible mistake, it's okay. You can restore the page you've just cleared by going to the **Edit** menu, and selecting **Undo**. The lost page will reappear on your screen (phew!).

CLEAR SCORE

What It Does:

The **Clear Score** feature clears your entire score, not just the page of music currently on the screen. Unlike the **Clear Page** feature, **Clear Score** warns you that you'll **LOSE YOUR CURRENT SCORE** if you choose this feature. Heed this warning because you can't **Undo** this action, as you can with **Clear Page**. **Remember: Once you clear the score, it's bye, bye, birdie.** Of course, if you saved your score to disk before clearing, it remains intact on the disk.

How To Do It:

1. Select the **Clear Score** feature and press the joystick button.
2. Point the arrow at **OK** if you want to go ahead and clear the entire score (or point at **Cancel** and press the button if you want to cancel the process and return to the main composing screen).

QUIT

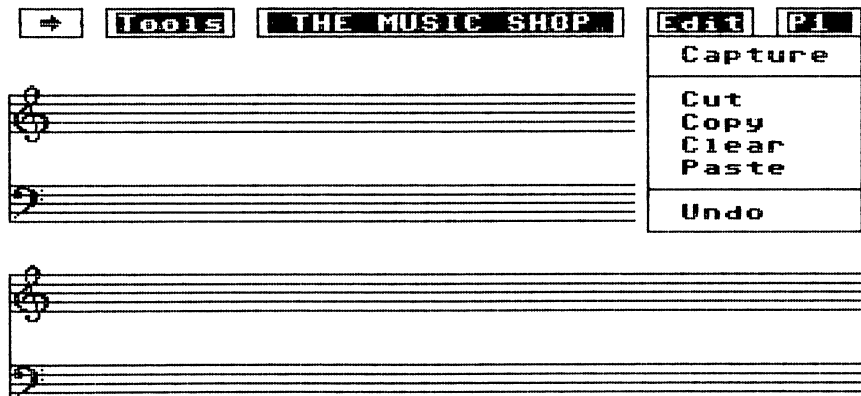
What It Does:

This lets you exit **THE MUSIC SHOP** altogether, first warning you that any score you were working on will be lost.

How To Do It:

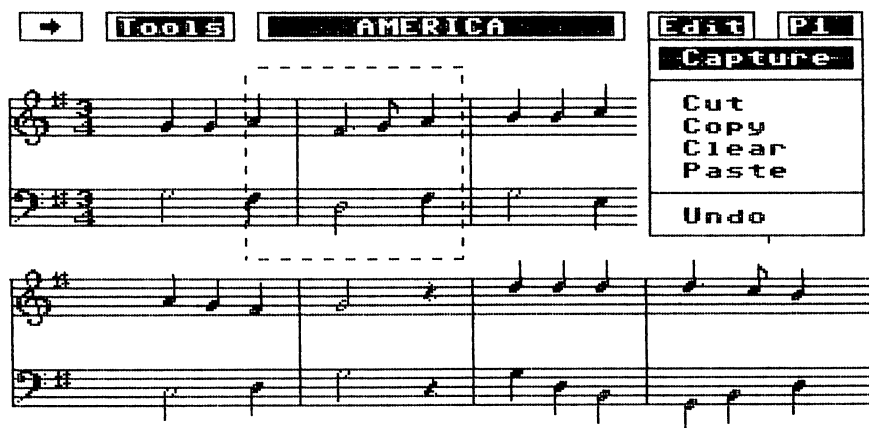
1. Be sure you've saved your score first if you don't want to lose it.
2. Select **Quit** and push the joystick button.
3. Point at **OK** and press the joystick button if you want to exit the program (or point at **Cancel** and press the button if you want to return to the main composing screen).

EDIT



THE MUSIC SHOP's **Edit** menu lets you easily rewrite and polish your scores by providing you with editing features similar to those used in many word-processing programs. After first *capturing* a specific section of music on your screen, you can then move that section to another part of your score, duplicate it in another part of your score, or erase it altogether.

CAPTURE



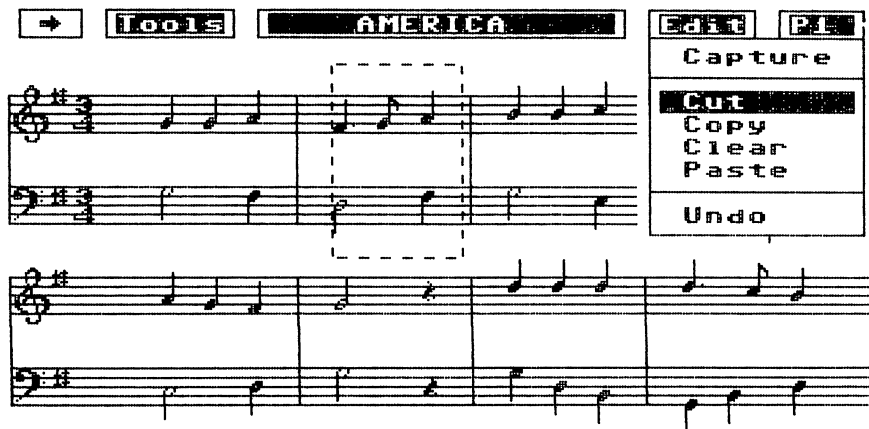
What It Does:

The **Capture** feature allows you to mark an area on the screen for editing. Once you've *captured* a specific section of music, you can then *cut*, *cut and paste*, *copy and paste*, or *clear* (erase) that section. Remember: You must capture an area first before using those editing options. THE MUSIC SHOP lets you capture a "slice" of one staff in single-staff mode, or of a double staff in double-staff mode.

How To Do It:

1. Once you select **Capture**, the arrow will be carrying a small dashed vertical line. Move the arrow to the beginning or end of the section you want to mark and then press the joystick button. A vertical dashed line the length of a staff will appear at that point on the screen.
2. Now move the arrow to the left or right. The dashed line will expand into a dashed-line box that lets you surround the section you want to mark.
3. Press the joystick button when you've surrounded the desired section. The **Edit** menu will automatically be pulled down to let you choose your next action.
4. If you change your mind at any time and want to capture a different section of music, just go back to the **Edit** menu and select **Capture** again.
5. To move immediately to **Capture** mode, type **C** and the dashed line will appear on your arrow. Then, go ahead to capture the area you want.

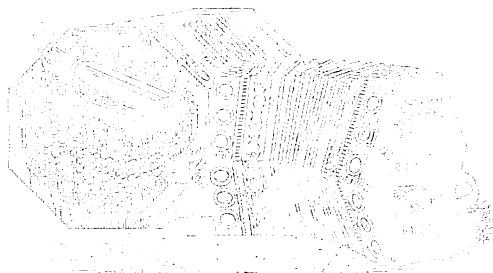
CUT

**What It Does:**

The Cut feature lets you *cut* a section of music on the screen, moving remaining notes on the staff over to fill the empty space left by your cut. It also lets you *cut* a section of music and *paste* it elsewhere in your composition — either on the current page, or another page.

How To Do It:

1. To cut a section that you've captured, simply choose the Cut feature from the Edit menu. The notes and symbols in the area that you have captured will disappear and those remaining on the staff will move to the left to fill the gap (notes will not move up from the staff below, or "wrap," however).
2. If you decide that you didn't want to cut this section after all, don't panic. Go back to the Edit menu and select Undo. The section you cut will reappear on the screen.
3. If you want to *cut* a section and *paste* it elsewhere in your composition, first select Cut as described in step 1. Go back to the Edit menu and select Paste, and then follow the instructions in the Paste section.



COPY

**What It Does:**

The **Copy** feature lets you *copy* a section of music that you've captured and *paste* it elsewhere in your composition, without cutting the section of music originally captured.

How To Do It:

1. After you've captured the section you want, select **Copy** from the **Edit** menu. The computer will place an exact copy of this section onto the "invisible clipboard" in its memory.
2. Go back to the **Edit** menu and select **Paste**, and then follow the instructions in the **Paste** section.

CLEAR

What It Does:

The **Clear** feature erases the section of music you've captured, leaving the space empty (not moving the remaining notes on the staff to the left).

How To Do It:

1. Once you've captured the section you want, select **Clear** from the **Edit** menu to erase this section.
2. If you decide you didn't want to clear this section, select **Undo** from the **Edit** menu. The section you cleared will reappear on the screen.
3. You can also *paste* a section you cleared. Go back to the **Edit** menu and select **Paste**, and then follow the instructions in the **Paste** section.




PASTE

What It Does:

The **Paste** feature lets you "paste" onto the screen the section of music that has been placed on the computer's "invisible clipboard" by first *cap-*

ting it and then *cutting*, *copying*, or *clearing* it. You can't select the **Paste** option until you have first *captured* the section you want, then either *cut*, *copied*, or *cleared* it.

How To Do It:

1. After first *capturing* a section of your score, and then selecting either *cut*, *copy*, or *clear*, return to the **Edit** menu and select **Paste**. (You can also type P to put yourself in **Paste** mode.)
2. A little paste brush that looks like this  will appear on your arrow to let you know whenever you're in **Paste** mode.
3. Move the  to the position where you want to paste the section that you've already put on the computer's "invisible clipboard" and press the joystick button.
4. If there isn't enough room, you'll hear a beep. Just move the arrow until you have enough room, then try again.
5. To turn pages while in the **Paste** mode, press F5 for the next page, F3 for the previous page.
6. To get out of **Paste** mode, press the **RUN/STOP** key.
7. Once you've captured and then *cut*, *copied*, or *cleared* a section of music, you can continue to *paste* it without starting from the beginning again by recapturing the section. Just select **Paste** (or type P), then move the  to the new position and press the joystick button.

UNDO

What It Does:

The **Undo** feature lets you "undo" the last editing step you took in the program. For example, you have the opportunity to bring back a section of music you just erased or remove a section you've just pasted onto the score. The **Undo** feature also restores a page that you've just cleared using the **Clear Page** feature under the **Title** menu.

How To Do It:

1. If you want to bring back a section you just cut, go to the **Edit** menu and select **Undo**. The cut section will reappear on your screen.
2. If you want to remove a section you've just pasted down, follow the same steps. The section will disappear from your screen.
3. The same process should be followed to restore an entire page cleared using the **Clear Page** feature.

PAGE BOX



The box in the upper-right corner is the **Page Box**. It shows you what page of your score is currently appearing on the screen. As you play your score, it changes as THE MUSIC SHOP automatically turns pages for you. You can also turn pages manually using the **Page Box**.

1. If you're using a joystick, you can turn to the next page by pointing the arrow at the **Page Box**, and while pressing the button, moving the joystick in an up position. To turn to the previous page, move the joystick in a down position (while pressing the button).

2. Using the keyboard, turn to the previous page by pressing the F3 key; turn to the next page by pressing the F5 key.

THE MUSIC SHOP lets you write a maximum of 20 pages per score if you have double staves (plural for staff) on the screen, and 13 pages per score if you have single staves on the screen. You can divide longer pieces into separate movements — writing, saving, loading and playing them under separate titles.



PROGRAM NOTES



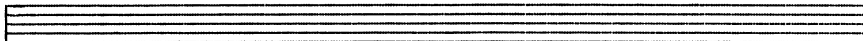
BASICS OF MUSIC THEORY

This section presents the most basic elements of music theory. If you don't understand some of the symbols in the **Get Notes** window, just look them up here. Or use this section to jog your memory if you studied piano once upon a time and just need a little brushing up. Even if you're an experienced composer or musician, you'll find this section a good guide to all the possibilities of composing and editing music with **THE MUSIC SHOP**.

The entries are not organized alphabetically; instead, this section begins with the most basic elements and works up to more advanced ones. It's short enough so if you need help with just one item, you can find it easily.

STAFF


Music is written on a five-line staff, with four spaces in between.

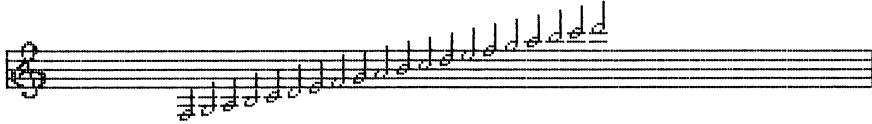


CLEFS


At the beginning of each staff in **THE MUSIC SHOP** is one of two kinds of clefs, a treble clef or a bass clef. The pitch of notes depends on which clef is being used. The bass clef is used when depicting lower notes; the treble for higher notes. In **THE MUSIC SHOP**, you use the **Setup Screen** window to select between double- or single-staff modes, and to choose any combination of treble and bass clefs that you want.

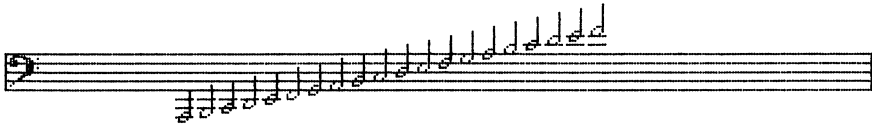
TREBLE CLEF AND STAFF

The treble clef looks like this . A staff with a treble clef is called a treble staff. It's where high notes are placed. THE MUSIC SHOP lets you write from the F below the bottom line on the treble staff to the D above the top line (double-staff mode; single-staff range is larger).



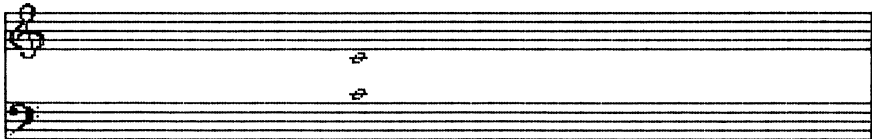
BASS CLEF AND STAFF

The bass clef looks like this . A staff with a bass clef is called a bass staff. Low notes are placed on the bass staff. THE MUSIC SHOP lets you write from the A below the bottom line in the base staff to the F above the top line (double-staff mode; single-staff range is larger).



THE GRAND STAFF

A notational device used in music theory to explain the relation between the treble staff and bass staff. The two staves (plural for staff!) are close together with extra lines — represented by short “leger” lines — between them. The first line below the treble staff and first line above the bass staff is where Middle C is written.















NOTES AND RESTS

The pitch and duration of single musical sounds are indicated by written symbols — called notes — that are placed on a staff. High notes are on the higher lines or spaces of the staff, while low notes are placed lower on the staff. Each note is assigned a letter name, after the first seven letters in the alphabet.





A period of silence is indicated by written symbols — called rests — that are also placed on a staff.

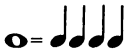
On the top row in the **Get Notes** window, you'll find different types of notes, ranging from a whole note, the longest, to a thirty-second note, the shortest. On the second row you'll find different types of rests, ranging from a whole rest to a thirty-second rest. You can place these notes and rests on the screen by picking them up from the **Get Notes** window or by using the keyboard: Type 1 through 6 to place whole notes through thirty-second notes where your arrow is pointing, and **SHIFT** 1 through 6 to place whole rests through thirty-second rests where your arrow is pointing. The chart below shows you what each of these notes and rests looks like:

Whole note		Whole rest	
Half note		Half rest	
Quarter note		Quarter rest	
Eighth note		Eighth rest	
Sixteenth note		Sixteenth rest	
Thirty-second note		Thirty-second rest	

Each note — and rest — has a specific time relationship with other notes and rests. For example:

One whole note is the same as two half notes 

One half note is the same as two quarter notes 

One whole note is the same as four quarter notes 

DOTTED NOTES AND RESTS

In the **Get Notes** window, you'll also see notes and rests with little dots placed right after them. These are called dotted notes and rests, and are located on the first and second rows in the window. A dot placed right after a note or rest increases the value (duration) of that note or rest by one-half the value of the original note. For example:

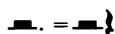
One dotted half note is the same as one half note and one quarter note



One dotted quarter note is the same as one quarter note and one eighth note



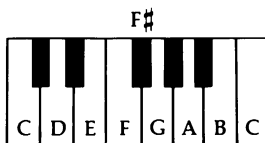
One dotted half rest is the same as one half rest and one quarter rest



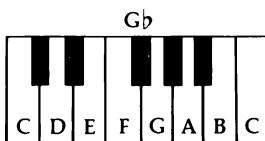
SHARPS, FLATS, AND NATURALS

In the second row of the **Get Notes** window, you'll find sharp, flat, and natural symbols. These symbols are called accidental signs.

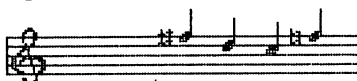
A sharp **#** sign placed in front of a note raises the note's pitch one-half step. On a piano keyboard, for example, this is **F#**:



A flat **b** sign placed in front of the note lowers the note's pitch one half step.



A natural **♮** sign in front of the note tells you the note should not be played with either a sharp or flat, or in other words, cancels the effect of a sharp or flat.



MEASURES AND BAR LINES

Written music is divided into parts equal in time value. These parts are called measures. Single bar lines show where measures begin and end. The single bar line symbol is just to the right of the $\frac{2}{2}$ in the third row of the **Get Notes** window.

DOUBLE BAR LINES

To the right of the single bar in the **Get Notes** window are several double bars. Different types of double bar lines are used to indicate a major change in the middle of a piece, the beginning and end of a piece, and a repeat. Here's how the different double bar lines are used:

Signifies a major change in the score, such as a new key signature. To change the key signature in the middle of a piece using **THE MUSIC SHOP**, place the new key signature immediately after the double bar line. Be sure to leave an empty column between the key signature and the first note of music following the key signature. ||

Indicates the beginning of the piece or a new section. ||

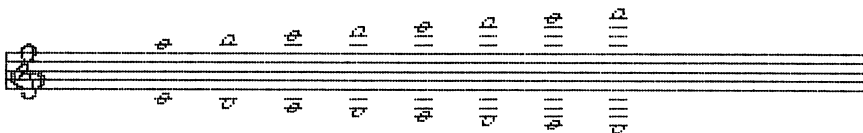
Indicates the end of the score. ||

Indicates a repeat. The measures in between the bars are played once and then repeated before continuing on to any following measures. ||: :||

[VARIATIONS ON THE MAIN THEME]

LEGER LINES

As you carry around notes on the screen, you'll notice that short lines cut through the notes whenever you take them above or below the staff. These lines are called leger lines (sometimes spelled ledger). They make it easier to read the position of notes that can't be written within the bounds of the staff.



TIME SIGNATURES



Measures can contain two, three, four, or more beats, depending on the time signature. In **THE MUSIC SHOP**, you'll find time signatures on the third row of the **Get Notes** window. They look like fractions or double numbers, one on top of the other. Time signatures are written after the key signature.

You should always place a time signature at the beginning of your score (if you don't, **THE MUSIC SHOP** assumes you're writing in $\frac{4}{4}$ time). The top number indicates the number of beats in each measure, and the bottom number, what kind of note gets one beat.

For example, in $\frac{4}{4}$ time, four beats equal one measure and a quarter note gets one beat ($4 \text{ beats} \times \frac{1}{4} \text{ note} = 1 \text{ measure}$). In $\frac{3}{4}$ time, three beats equal one measure and a quarter note gets one beat ($3 \text{ beats} \times \frac{1}{4} \text{ note} = 1 \text{ measure}$).

When you check for timing errors using the **Verify Timing** feature, **THE MUSIC SHOP** will use the time signature to determine the number of beats that should be in each measure. If you have placed a $\frac{3}{4}$ time signature at the beginning of your piece, **THE MUSIC SHOP** will help you check that each measure has three beats, with the equivalent of one quarter note for each beat.

NOTE STEMS

You may have noticed that the scores on the program disk contain notes with stems going up  and down .

The general rule is that stems should be down for notes on the middle line or higher, and up for notes below the middle line.



In practice, though, notes in groups tend to share the same stem direction, so they are easier to read.



And if you are writing two parts on the same staff, notes for the top part will usually have their stems up, while the bottom part's notes will have their stems down. This makes it easier to read the music and differentiate between the two parts.



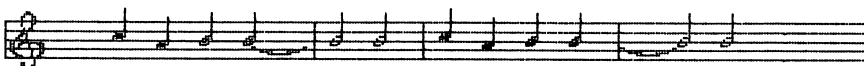
In THE MUSIC SHOP, all the notes in the **Get Notes** window have their stems up, but it's simple to turn them around, if you want. After picking up the desired note in the **Get Notes** window, just type **U** and you'll see the stem on your shadow note flip down. Type **U** again, and it'll flip the other way. You can also enter stem-down notes directly from the keyboard. First, make sure you are carrying a shadow note — any note — on your arrow. Turn its stem down as described above. Now, any note you enter from the keyboard using the 1 through 6 keys will be written with its stem down. (Try it to get the idea).

TIES

At the right side of the **Get Notes** window, you'll see two curved lines that look a little like smiles. These are tie signs. A tie is used to connect two adjacent notes with the same pitch to indicate that when played, the tone sounds like one note.



To tie two notes in THE MUSIC SHOP, select one of the ties in the **Get Notes** window, then place it between the two notes you want to tie together, making sure it is at the same note position as the two notes you are tying (check the **MUSIC BOX** to be certain). Note: Because symbols cannot be placed on bar lines you must place the tie either before or after the bar line when tying two notes in different measures.



You can turn the tie upside down — making it look like a frown — by typing **U** when you are carrying a tie symbol on your arrow.

INTERVALS

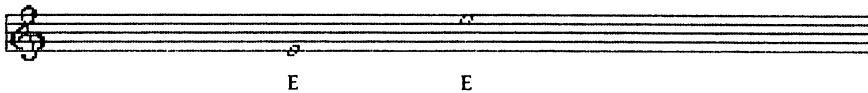
The distance — or difference in pitch — between two notes is called an interval. An interval of two notes played at the same time is called a har-



monic interval. To create harmony that's sweet to the ears, try starting with thirds — two notes separated by a space or line. Then fiddle with other harmonic intervals to see how they sound.



OCTAVE

An octave is an interval of eight notes. For example, from E to the next highest or lowest E is an octave.



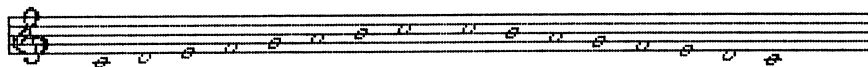
In THE MUSIC SHOP, you can raise a section of music one octave by using the "octave-up" sign. Select the  from the **Get Notes** window and place it at the beginning of the section you want played an octave higher. Then select the  and place it where you want the octave-up section to end. When you play the piece, that section of music will sound an octave higher (try it to get the idea). The octave-up sign affects the current staff only, so you need to place the sign on each staff — including top and bottom in the double-staff mode — if you want the music on both staves to be played an octave higher. This symbol makes it easy to represent high notes without having to use lots of ledger lines, which are both cumbersome and hard to read.

SCALES

A scale is made up of a succession of notes. The two most common types of scales used in Western music are major scales and minor scales, although there are many, many other scales that are used in musical composition around the world.

THE MAJOR SCALE

The major scale consists of eight consecutive tones, with the last note an octave higher than the first. You've probably heard the major scale dozens of times when you've listened to someone sing "do, re, mi, fa, so, la, ti, do" (Hint: pronounced doe, ray, me . . .).



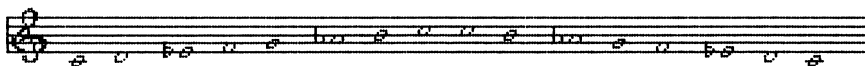
All the tones, with two exceptions, are separated by whole steps. The progression goes like this: two whole steps, one half step, three whole steps, one half step.

Major scales can start on any note as long as they follow the required whole-step and half-step progression.

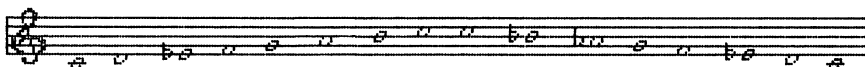
THE MINOR SCALE

The minor scale also consists of a succession of eight notes, with the last an octave higher than the first. There are two types of minor scales.

In the Harmonic minor scale, there are half steps between the second and third note, the fifth and sixth, and the seventh and eighth.



In the Melodic minor scale, when moving up the scale, there are half steps between the second and third notes, and seventh and eighth notes; when moving down the scale, there are half steps between the sixth and fifth notes, and third and second notes.

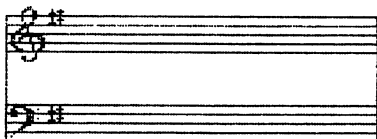


This is probably more detail than you need, but you can make it into an interesting exercise by writing a major scale, and the two types of minor scales on THE MUSIC SHOP's screen and listening to the differences in their sound (just copy the illustrations above).

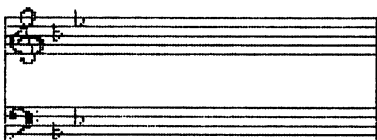
KEY SIGNATURES

Instead of writing sharps and flats before every note in the score, which obviously would be very time consuming, you can indicate at the very beginning of a piece any notes you always want to be sharp or flat. You do this immediately following the clef symbol by putting sharp or flat signs where the notes are ordinarily written on the staff. This is called the key signature, and it indicates that the accidentals shown are in effect throughout the piece unless marked by a natural sign (or unless you change the key signature in the middle, of course).

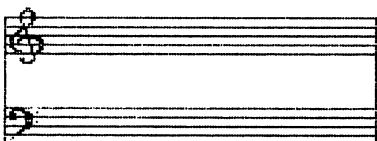
Here are some examples:



The key of G has one sharp, so the key signature looks like this in treble and bass clefs:



The key of B has two flats, so the key signature looks like this in treble and bass clefs:



The key of C has no sharps or flats, so there are no marks:

[VARIATIONS ON THE MAIN THEME]


RELATIVE MINOR KEY SIGNATURES

All major keys have a relative minor key that uses the same key signature. The key tone of the minor key is three half steps below the key tone of its relative major.

TRIPLETS

A triplet is a group of three notes played in the time normally allotted to two of the same type of notes.

To create triplets in THE MUSIC SHOP, first select the type of note or rest you want to use. Before you place it on the screen, type T and you'll see a shadow "t" appear. Now, place your three triplets, one at a time, as you would place any other notes or rests. You won't see the shadow "t" on the screen, but THE MUSIC SHOP will remember to play those notes or rests as triplets. Type T again to stop writing triplets (you'll see the shadow "t" disappear). If you pick up a note or rest that is a triplet, the "t" will appear with the note, and you will be in triplet mode until you type T.



To indicate on the screen where you have written triplets, select the triplet sign  in the **Get Notes** window and place it over the three triplets. You can listen to the difference in sound by duplicating the following notes on your screen and then playing them.

You can turn the triplet symbol upside down by typing U when your arrow is carrying the triplet symbol.



FIRST AND SECOND ENDINGS

First and second ending symbols allow you to repeat a phrase, with one group of measures played the first time, and a different group played the second time.

Place the  at the beginning of the first group of measures. Place the  at the beginning of the second group.

SOUND AND THE COMMODORE 64

A CHIP CALLED SID

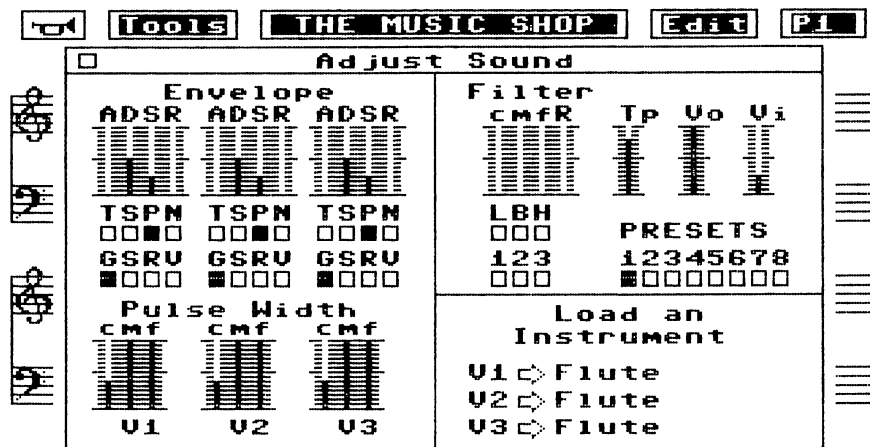
You may be wondering why THE MUSIC SHOP can turn the Commodore 64 into such a powerful music synthesizer. The answer is a tiny computer chip in the Commodore 64 called SID, which stands for "Sound Interface Device."

SID is basically an electronic synthesizer that lets you control sound independently for three separate voices, called oscillators. For each voice, you can program the envelope, waveform selection, add vibrato, or even run it through a filter, all of which are described below. Or, you can pro-

gram the voices together to get special effects like synchronization. The best way to learn how the SID chip works is to select **Adjust Sound** from the **Tools** menu and experiment with all the features. So adjust your earphones and go for baroque!

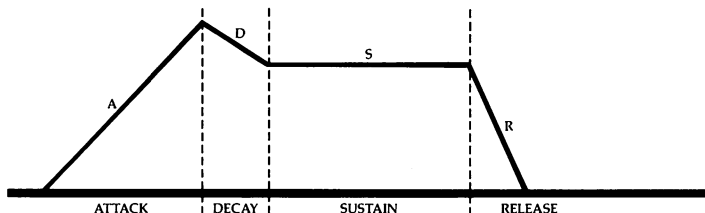
Sound

Sound is produced whenever a vibrating source (like an instrument or your voice) sends air particles into motion, causing air disturbances. These air disturbances are called sound waves.



The Envelope Generator ADSR

Every sound has a specific shape, called an "envelope," that determines the way the sound begins and ends. The **Envelope Generator** controls this shape, which is made up of four different phases: **attack**, **decay**, **sustain**, and **release**.



Attack — the time it takes for a note to reach its peak volume after being started. The larger the attack, the greater the time.

Decay — the time it takes for the note to fall from its peak volume to the sustain level. The larger the decay, the greater the time.

Sustain — the volume level at which the note will remain until it is released. The larger the sustain level, the greater the volume.

Release — the time it takes for the note to fall to zero volume. The larger the release, the greater the time.

When a note is started, the **attack** phase begins, followed by the **decay** phase. The note stays at the **sustain** level until the note is stopped, at which point the **release** phase is initiated.

Waveform TSPN

Different sound waves have different “waveforms.” Waveforms have distinct shapes and determine the quality of the sound you hear. For example, the waveform of a violin looks like this:



The waveform of chimes looks like this:

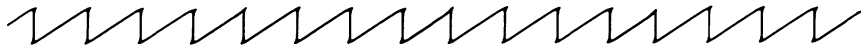


Using THE MUSIC SHOP to turn your Commodore 64 into a music synthesizer, you can produce different waveforms for each of the three voices. These special waveforms — called **triangle**, **sawtooth**, **pulse**, and **noise** — do not exist in nature, but like waveforms for a violin or chimes, each has its own unique tone quality.

Triangle — waveform with a pleasant, mellow sound, like a flute.



Sawtooth — waveform with a brassy sound, like a trumpet or saxophone.



Pulse — waveform with a reedy, nasal sound like an oboe. The sound is varied by adjusting the **Pulse Width** (see below).



Noise — waveform with a “white” noise or percussion sound, just as suggested by its name.



Control Register

GSRV

The **Control Register** in the **Adjust Sound** window lets you control the **gate**, **sync**, **ring**, and **vibrato**. With these four functions, you can combine two voices to create a lot of wild and crazy sound effects.

Gate — the **gate** switch simply turns any of the three voices on or off. For example, if you want to hear only voice 1, you would turn on the **gate** (think of it as opening the gate . . .) for voice 1, and turn it off for voices 2 and 3.

Sync and Ring — these types of modulation affect the tone quality or timbre of a sound and are created by combining two waveforms. The tone quality depends on the frequencies of the two waveforms. Changing the pitch of either waveform changes the tone quality.

Sync modulation produces a wide variety of sounds by synchronizing the two frequencies together. **Ring** modulation produces metallic sounds and is used to create bell-like tones.

For **sync** and **ring** modulations the voices are combined as:

Selected Voice	is	Combined With
Voice 1		Voice 3
Voice 2		Voice 1
Voice 3		Voice 2

In order for **ring** modulation to work, you must use the **triangle** waveform for the selected voice (as in the example above). With **sync** modulation, you can use any waveform for the selected voice.

Vibrato — produces a waving effect for any selected voice. If you want a voice to have vibrato, turn on the **Vibrato** switch and set the vibrato rate (or intensity) using the **Vi** slide.

Pulse Width

cmf

The **pulse width** controls are used for adjustment when you select the **Pulse** waveform — **P** in **TSPN** above. You must set the width using the **cmf** controls (**coarse**, **medium**, and **fine**), or you will not hear the voice for which you have selected **P**.

c — allows for large-scale adjustments

m — allows for moderate adjustments

f — allows for small-scale adjustments

Filter

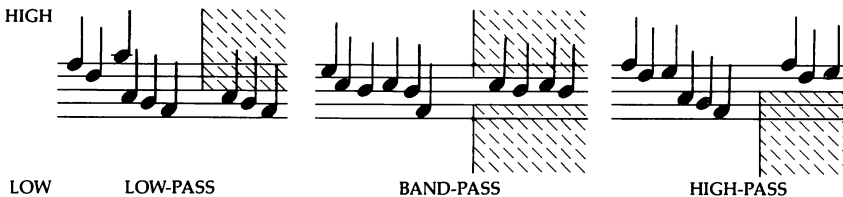
LBH and cmfR

Most sounds consist of a main frequency and many other frequencies called “harmonics” or “overtones,” which help to determine the overall tone quality of a sound. Different harmonics create different timbres. Changing the amount of harmonics present in the sound changes the tone quality of the sound. The SID chip provides you with three filters to do this: the **low-pass (L)**, **band-pass (B)**, and **high-pass (H)** filters.

Low-pass — This filter allows the harmonics below a certain point, called the cutoff frequency, to pass through. The harmonics above this point are filtered out, or decreased in volume. **Low-pass** filters produce low, full-bodied sounds.

Band-pass — This filter allows a small group of harmonics surrounding the cutoff frequency to pass through. All others are filtered out. **Band-pass** filters produce thin, open sounds.

High-pass — This filter allows the harmonics above the cutoff frequency to pass through. The harmonics below the cutoff point are filtered out. **High-pass** filters produce tinny, buzzy sounds.



Each filter type is selected by using the **LBH** switches. Any voice can be run through the filters by selecting the 1, 2, 3 switch under the slides. You set the cutoff frequency by using the **cmf** controls — **coarse**, **medium**, and **fine** — and set the filter’s strength with the **resonance** — **R** — control.

c — allows for large-scale adjustments in the frequency

m — allows for moderate adjustments in the frequency

f — allows for small-scale adjustments in the frequency

R — adjusts the strength of the filter; the larger the **resonance**, the sharper the sound.

NOTE: Any of the filters can be combined to produce different sounds. Be sure to set the cutoff frequency when using filters (using the **c**, **m**, or **f** controls or a combination) or you won’t hear any sound.

Tempo, Volume, and Vibrato

These controls let you adjust the speed and volume at which your scores are played, and the intensity of the vibrato, if you’ve decided to use vibrato for any of the three voices.

Tp — controls the tempo or speed of the music

Vo — controls the volume of the music

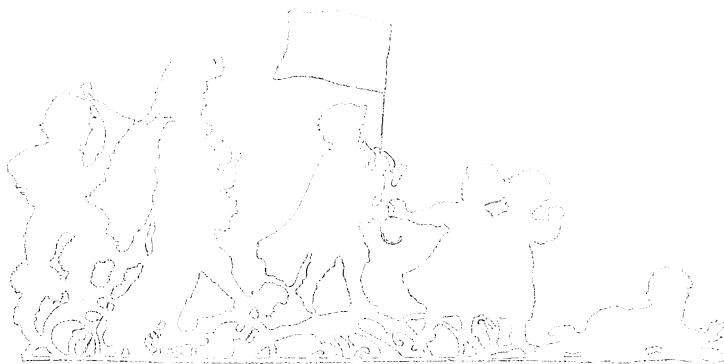
Vi — controls the intensity of the vibrato (The **V** switch under **control register GSRV** must be on for the desired voice)

MUSIC SHOP TITLES

SONGS ON THE MUSIC SHOP PROGRAM DISK

Title	Author
1. Invention XIII	J.S. Bach
2. Estudio Brillant	Francisco Tarrega
3. Nutcracker	Peter I. Tchaikovsky
4. Sugar Plum	Peter I. Tchaikovsky
5. Peacherine Rag	Scott Joplin
6. Kajun Klog	Louis Ewens
7. Minuet in G	J.S. Bach
8. Greensleeves	English Carol
9. Sonata in C	Wolfgang A. Mozart
10. Fur Elise	Ludwig van Beethoven
11. Invention VIII	J.S. Bach
12. Oogie Boogie	Louis Ewens
13. Canon in D	Johann Pachelbel
14. Russian Dance	Peter I. Tchaikovsky
15. Prelude	J.S. Bach
16. Jesu	J.S. Bach
17. Jingle Bells	John Pierpont
18. God Rest You	English Carol
19. Silent Night	English Carol
20. Deck the Hall	Traditional
21. Heard on High	Christmas Carol
22. Elephant Trot	Louis Ewens
23. Maple Leaf Rag	Scott Joplin
24. America	Traditional
25. Teapot	Children's Song
26. Teapot 3	Children's Song

And more . . .



THE MUSIC SHOP LIMITED WARRANTY INFORMATION

Disk Replacement Policy

If this disk should fail within 90 days of purchase, please return with proof of purchase for prompt FREE replacement. If the disk has been physically damaged, or after 90 days from date of purchase, please include \$5 for replacement plus \$2.50 for postage and handling.

Printer Compatibility

This program is warranted to work only with the printers and interface devices listed on the outside of the package. Brøderbund Software, Inc., assumes no responsibility for supporting printers and interface devices not listed on the outside of this package.

Limited Warranty

This manual and the software described in this manual are sold "AS IS," without warranty as to their performance. The entire risk as to the quality and performance of the software is assumed by the user. The user, and not the manufacturer, distributor, or retailer, assumes the entire cost of all necessary servicing, repair, or correction, and any incidental or consequential damages.

However, to the original purchaser only, Brøderbund warrants that the medium on which the program is recorded shall be free from defects in materials and workmanship under normal use and service for a period of ninety (90) days from the date of purchase. If during this period a defect in the product should occur, the product may be returned to Brøderbund or to an authorized Brøderbund dealer along with proof of purchase, and Brøderbund will replace or repair the product at Brøderbund's option without charge to you. Your sole and exclusive remedy in the event of a defect is expressly limited to replacement or repair of the product as provided above.

If failure of the product, in the judgment of Brøderbund, resulted from accident, abuse, or misapplication of the product, then Brøderbund shall have no responsibility to replace or repair the product under the above terms.

Nonetheless, such products (and products that become defective after the ninety-day replacement period) may be returned to Brøderbund along with \$5, plus \$2.50 for postage and handling, and Brøderbund will provide you with a replacement.

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